EXPEDITED PROCEDURE – EXAMINING GROUP 2672

S/N 09/210,055 **PATENT**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	John D. Miller	Examiner: Jin-Cheng Wang
Serial No.:	09/210,055	Group Art Unit: 2672
Filed:	December 11, 1998	Docket No.: 884.055US1
Title:	METHOD AND APPARATUS FOR CONTROLLING IMAGE TRANSPARENCY	
Assignee:	Intel Corporation	Customer Number: 21186

PRE-APPEAL BRIEF REQUEST FOR REVIEW

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In response to the Final Office Action mailed November 15, 2005, the Applicant requests review of the final rejection in the above-identified Application. No amendments are submitted with this Request, which is being filed with a Notice of Appeal for the reasons stated below.

§102 Rejection of the Claims

Claims 22, 24, 26, 28, 32, 34 and 37 were rejected under 35 USC § 102(e) as being anticipated by Shinohara (U.S. 5,880,735; hereinafter "Shinohara"). The Applicant believes there is a clear deficiency in the *prima facie* case in support of the rejection, namely, that the Office has not shown that Shinohara discloses the identical invention as claimed.

Anticipation under 35 USC § 102 requires the disclosure in a single prior art reference of each element of the claim under consideration. *See Verdegaal Bros. V. Union Oil Co. of California,* 814 F.2d 628, 631, 2 USPQ 2d 1051, 1053 (Fed. Cir. 1987). It is not enough, however, that the prior art reference discloses all the claimed elements in isolation. Rather, "[a]nticipation requires the presence in a single prior reference disclosure of each and every element of the claimed invention, *arranged as in the claim.*" *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (citing *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)) (emphasis

added). "The *identical invention* must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989); MPEP § 2131 (emphasis added).

Shinohara teaches changing the transparency of polygons based upon the Z component of the unit normal vector at each vertex. *See* Shinohara, Col. 11, lines 37-43. "The normal vector of each vertex is found by taking the average of each normal vector of the polygons adjoining the vertex." Shinohara, Col. 2, lines 2-4. The transparency of each pixel on a particular polygonal surface is then adjusted to reflect the transparency of the vertices which enclose the surface. *See* Shinohara, Col. 10, lines 33-49.

Thus, Shinohara explicitly states that transparency changes are made using vertex normal vectors, and not the incident angle created by the intersection of a viewing surface normal vector with a planar surface, as claimed by the Applicant. While the Office attempts to equate the some kind of vertex normal vector average with the incident angle created by a viewing surface normal vector, these elements are simply not the same. For example, using Shinohara's approach, different pixels on the same surface can have different transparency values. This is not the case with the claimed embodiments. Therefore, since Shinohara does not teach adjusting image transparency using the angle of incidence between the viewing surface normal vector and the planar surface of an object, reconsideration and withdrawal of the rejection under 35 U.S.C. § 102(e) is respectfully requested.

§103 Rejection of the Claims

Claim 20 was rejected under 35 USC § 103(a) as being unpatentable over Obata (U.S. 5,222,203; hereinafter "Obata") in view of Shinohara. In this case, the clear deficiency in the rejection lies in the fact that a *prima facie* case of obviousness has not been established as required by M.P.E.P. § 2142.

The Examiner has the burden under 35 U.S.C. § 103 to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d (BNA) 1596, 1598 (Fed. Cir. 1988). The M.P.E.P. contains explicit direction to the Examiner in accordance with the *In re Fine* court:

> In order for the Examiner to establish a *prima facie* case of obviousness, three base criteria must be met. First, there must be some suggestion or motivation, either in

> the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *M.P.E.P.* § 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d (BNA) 1438 (Fed. Cir. 1991)).

The requirement of a suggestion or motivation to combine references in a *prima facie* case of obviousness is emphasized in the Federal Circuit opinion, *In re Sang Su Lee*, 277 F.3d 1338; 61 U.S.P.Q.2D 1430 (Fed. Cir. 2002), which indicates that the motivation must be supported by evidence in the record.

No proper *prima facie* case of obviousness has been established because: the combination of references does not teach all of the limitations set forth in the claims, there is no motivation to combine the references, and the modifications suggested by the Office provide no reasonable expectation of success. These points are explained in detail as follows.

The Combination of References Does not Teach All Limitations: As admitted in the Office Action, "Obata does not specifically teach the claim limitation of 'assigning a transparency factor to alpha'". The Office attempts to remedy this deficiency using Shinohara. However, Shinohara also does not operate to assign a transparency factor to alpha.

As noted in detail above, Shinohara explicitly states that transparency changes are made using vertex normal vectors, and not the incident angle created by the intersection of a viewing surface normal vector with a planar surface, as claimed by the Applicant. Thus, no combination of Obata and Shinohara can supply the missing element of "assigning a transparency factor to alpha" because there is no angle "alpha" disclosed by either Obata or Shinohara.

No Motivation to Combine the References: Any transparency factor disclosed by Shinohara would have to be fixed according to a vector that is normal to a vertex, and not to a planar surface, as claimed by the Applicant. The resulting transparency factor provided by Shinohara would be totally unpredictable, since the incidence angle between a vertex and a vector normal to the viewing surface is ambiguous. Using the combination suggested by the

Office, even further ambiguity would be expected, due to the interaction between Obata's material characteristics, light intensity, and the illumination angle of incidence:

> "The diffused transmitted light component may be calculated based upon a coefficient which is a function of the characteristics of the material forming the translucent object, the intensity of incident light from the light source and the angle of incidence of the incident light for illuminating the translucent object. The characteristics of the material include its transmissivity and its transparency." Obata col. 2, lines 25-33.

One of ordinary skill in the art would therefore not be motivated to combine Shinohara and Obata, as the resulting transparency factor would be undefined.

It is respectfully noted that the test for obviousness under § 103 must take into consideration the invention as a whole; that is, one must consider the particular problem solved by the combination of elements that define the invention. *See Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143, 227 U.S.P.Q. 543, 551 (Fed. Cir. 1985) (emphasis added). References must be considered in their entirety, including parts that teach away from the claims. See MPEP § 2141.02.

No Reasonable Expectation of Success: As the Office Action acknowledges, Obata does not teach "assigning a transparency factor to alpha," as claimed by the Applicant. This is because the color mixing taught therein is a function of several factors, as noted above, and therefore does not provide a transparency factor that depends on the angle of incidence claimed by the Applicant.

For example, how would Shinohara, which provides an ambiguous angle of incidence, be combined with Obata, which uses material characteristics, light intensity, and incidence angle to determine a diffused transmitted light component? This is unknown, and nothing in the references serves to guide one of ordinary skill in the art with respect to a predictable outcome, that is, to a reasonable expectation of success.

In summary, the references neither teach nor suggest the element of assigning a transparency factor to alpha, as claimed by the Applicant, and the modification suggested by the Office does not lead to a reasonable expectation of success by one of ordinary skill in the art. In fact, the references teach away from such a combination, as any transparency factor provided would be ambiguous. Thus, the requirements of *M.P.E.P.* § 2142 have not been satisfied; and a

prima facie case of obviousness has not been established with respect to the Applicant's claim. It is therefore respectfully requested that the rejection of claim 20 under 35 U.S.C. § 103(a) be reconsidered and withdrawn.

Conclusion

Since neither Shinohara nor Obata teach all of the elements claimed by the Applicant, and since there is no motivation to combine Shinohara with Obata, it is believed that the pending claims should be allowable over these references. Reconsideration and withdrawal of the rejections under §§ 102 and 103 as a result of this Pre-Appeal Brief Request for Review is respectfully requested. If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,
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Date Jan. 10, 2006

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 10th day of January 2006.

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Signature